Draft

ESDIS Configuration Tracking System Operations Concept

September 26, 1997

Configuration Tracking System Operations Concept

Background

The ESDIS Configuration Tracking System (CTS) was conceptualized from the EOS Ground System Review Board (ERB) activities. The ERB was responsible for ensuring that risks associated with establishing and maintaining system baselines for a complex system were managed effectively. The CTS was first established to add visibility to system configurations, releases and deliveries, and outstanding system problems for the EOS Ground System Integration and Test personnel. Eventually, the concept for the tracking system included a system that would also enable physical configuration management of baselined operational systems. This system in both concept and implementation has evolved over time and has enabled project personnel to begin to implement the tools and techniques necessary to manage the EOSDIS system configurations. This tool continues to evolve as team members and project personnel endeavor to produce something that will satisfy the needs of the ESDIS Project and support personnel.

Purpose

The purpose of the CTS is to assist the ESDIS Project personnel in tracking EOSDIS configuration items and associated deliveries and releases. The CTS provides configuration and delivery information for the front end system of ECS/FOS, EDOS, and ETS, in addition to, configuration information for ECS/SDPS residing at the Distributed Active Archive Centers (DAACs). Future upgrades to the system will allow access to information on ECS/CSMS, EBnet, Flight Project Data Base, Spacecraft Simulator (SSIM), Software Analysis System (SAS), Alaska Ground Station, and the Sweden Ground Station.

The web interface (http://esdis.gsfc.nasa.gov/ERB/CTS/cts.html) provides the user with the capability to view, enter, and search configuration and delivery information contained in associated databases. Links are also provided to relevant pages such as the ESDIS Discrepancy Reporting System, and other ESDIS related pages/servers that have more detailed configuration information such as the EOS Core System's Data Handling System (EDHS), EOS Test System (ETS), EOS Data and Operations System (EDOS), EOS Backbone Network (EBnet) Page, and to the EGS Schedules.

Definition of Terms:

Figure 1 shows a simplistic hierarchy of EOSDIS. EOSDIS is the system which is comprised of separate end item deliverables referred to as components. The following are definitions of the terms used in this hierarchy as they refer to the configuration tracking system:

1. Component - this refers to the parts that will comprise EOSDIS which are separate end item deliverables. Examples of a component are EDOS, ECS/SDPS, ETS/HRS, etc.

2. Subsystem - each component is divided into separate subsystems. An example of a subsystem within the ECS/SDPS component is "Client" (CLS).

3. Configuration Item (CI) - each subsystem is broken down into subsystem configuration items. Examples of CIs, being tracked at this level are the Desktop (DESKT) and the Workbench (WKBCH) for the Client (CLS) subsystem of the ECS/SDPS Component.

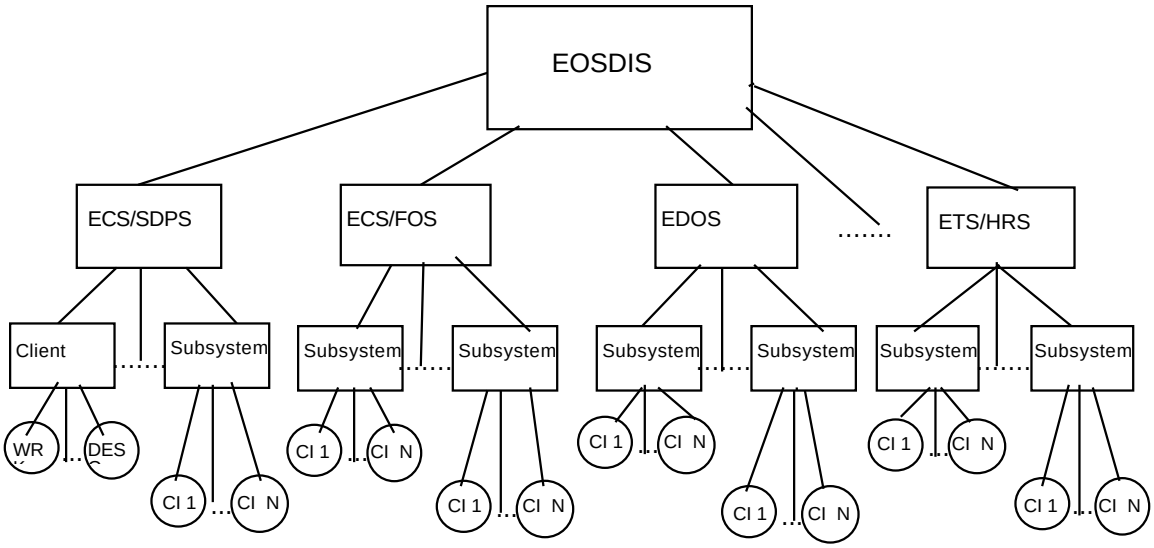

Figure 1 - EOSDIS Hierarchy

Assumptions

The Configuration Tracking System was developed based on the following assumptions:

1. There would be two types of users. Type One, is the user who is responsible for tracking the physical configurations of a component, once a component has been delivered to ESDIS. Type two, is the user who wants summary information for deliveries and releases for the EOSDIS components.

2. Detailed configuration information exists in a form that can be either loaded electronically into the database or exists on another server and can be linked from the web interface.

3. Configuration Items (CIs) and their related subsystem are defined before they are delivered. When deliveries are made, the CIs can then be related with the appropriate delivery. CIs can be related to deliveries through the subsystem to which they belong.

4. All software deliveries follow a standard numbering system. There are two components of the numbering sequence, (1) Release (2) Version. A Release is identified by a letter, for example, FOS Release "A", FOS

Release "B". A version number is used to identify updates to that release. (Note that the first digit correlates to the initial release of A, B, etc.) For example a software system version is tracked via the following numbering convention "X.Y.Z", where "X" is a release number (which correlates to the release letter, e.g. A, B, C) and "Y" and "Z" are patch numbers. (See the ESDIS Project Delivery Standard for more detailed information.)

Functions Performed using CTS

The following functions can be performed with the current version of CTS:

EOSDIS System Release Summary - users can obtain a view of all EOSDIS components at their current release/version. From this view a user will be able to go to a greater level of detail regarding each component's configurations, deliveries, and related information.

EOSDIS System Release Summary Search - users can search all EOSDIS components for their release/version for a particular date.

Enter CIs - users can enter hardware and software CIs, and related information.

Enter Deliveries - users can enter information on current or planned deliveries. The deliveries are linked to the previously entered CIs by selecting subsystems and then selecting the CIs under those subsystems that are effected by the deliveries.

Search CI - users can search for CIs by Component, Subsystem, ID, Name, Date or can list all of the Configuration Items currently in the system.

Search Delivery - users can search for deliveries by Component, Subsystem, ID, Name or Date or can list all of the Configuration Items currently in the system.

Links to other Pages

There have been links established for the following related pages/sites:

Discrepancy Reporting and Tracking Tool (DRTTS)
URL: http://iree.gsfc.nasa.gov/ddts/

EOS Data Handling System (EDHS)
URL: http://edhs1.gsfc.nasa.gov/

EOS Test System (ETS) Page
URL: http://esdis.gsfc.nasa.gov/ETS/ets.html

EOS Backbone Network Page (EBnet)
URL: http://bernoulli.gsfc.nasa.gov/ebnet

EOS Data and Operations System (EDOS)
URL: http://edos.gsfc.nasa.gov

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EGS Scheduling Information
URL: http://esdis.gsfc.nasa.gov/smo/schedule.html

Links will be added in the future to:

-DDTS
-Trouble Ticketing System